```
=> fil hcaplus
FILE 'HCAPLUS' ENTERED AT 17:07:29 ON 18 AUG 2003
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.
COPYRIGHT (C) 2003 AMERICAN CHEMICAL SOCIETY (ACS)
```



```
FILE COVERS 1907 - 18 Aug 2003  VOL 139 ISS 8
FILE LAST UPDATED: 17 Aug 2003  (20030817/ED)

This file contains CAS Registry Numbers for easy and accurate
substance identification.

=>
=>

=> d stat que l15
L1             3 SEA FILE=REGISTRY ABB=ON  PLU=ON  ("3-METHYL-2-HEXENOIC
                  ACID"/CN OR "3-METHYL-2-HEXENOYL CHLORIDE"/CN OR "3-METHYL-2-HE
                  XENYL BROMIDE"/CN)
L2         97757 SEA FILE=REGISTRY ABB=ON  PLU=ON  3(L)METHYL(L)2(L)HEXEN?
L3         21887 SEA FILE=REGISTRY ABB=ON  PLU=ON  L2 AND ESTER
L4         13687 SEA FILE=REGISTRY ABB=ON  PLU=ON  L2 AND 3(W)METHYL
L5          1597 SEA FILE=REGISTRY ABB=ON  PLU=ON  L4 AND 2(W)HEXEN?
L6           754 SEA FILE=REGISTRY ABB=ON  PLU=ON  L5 AND L3
L7                SEL  PLU=ON  L1 1- CHEM :       6 TERMS
L8            48 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L7
L9           507 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L8 OR L6
L10        64280 SEA FILE=HCAPLUS ABB=ON  PLU=ON  (LITTER OR BEDDING OR WASTE
                  OR FECES OR URINE OR STALL) AND (ANIMAL OR PET OR DOG OR CAT
                  OR LIVESTOCK? OR HORSE OR CHICKE OR HEN OR FELINE OR COW)
L11         1174 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L10 AND (?ODOR? OR ?ODOUR? OR
                  STENCH)
L14           34 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L11 AND 13
L15            0 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L14 AND L9


=>
=>

=> d stat que l17
L1             3 SEA FILE=REGISTRY ABB=ON  PLU=ON  ("3-METHYL-2-HEXENOIC
                  ACID"/CN OR "3-METHYL-2-HEXENOYL CHLORIDE"/CN OR "3-METHYL-2-HE
                  XENYL BROMIDE"/CN)
L2         97757 SEA FILE=REGISTRY ABB=ON  PLU=ON  3(L)METHYL(L)2(L)HEXEN?
L3         21887 SEA FILE=REGISTRY ABB=ON  PLU=ON  L2 AND ESTER
L4         13687 SEA FILE=REGISTRY ABB=ON  PLU=ON  L2 AND 3(W)METHYL
L5          1597 SEA FILE=REGISTRY ABB=ON  PLU=ON  L4 AND 2(W)HEXEN?
L6           754 SEA FILE=REGISTRY ABB=ON  PLU=ON  L5 AND L3
L7                SEL  PLU=ON  L1 1- CHEM :       6 TERMS
L8            48 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L7
L9           507 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L8 OR L6
```

```
L12          21 SEA FILE=REGISTRY ABB=ON  PLU=ON  CHARCOAL/BI
L13       42911 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L12 OR CHARCOAL
L16           4 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L9 AND (LITTER OR BEDDING OR
                WASTE OR FECES OR URINE OR STALL)
L17           0 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L16 AND L13


=>
=>

=> d ibib abs hitrn l16 1-4

L16 ANSWER 1 OF 4  HCAPLUS  COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER:         2003:491501  HCAPLUS
DOCUMENT NUMBER:          139:54246
TITLE:                    Process for determining the odor-inhibiting properties
                          of textile auxiliaries
INVENTOR(S):              Niederstadt, Rule; Moors, Rolf; Weihrather, Alfred;
                          Ellmann, Juergen; Reifler, Felix A.; Ritter, Axel
PATENT ASSIGNEE(S):       Ciba Spezialitaetenchemie Pfersee Gmbh, Germany
SOURCE:                   PCT Int. Appl., 21 pp.
                          CODEN: PIXXD2
DOCUMENT TYPE:            Patent
LANGUAGE:                 English
FAMILY ACC. NUM. COUNT:   1
PATENT INFORMATION:

     PATENT NO.        KIND  DATE          APPLICATION NO.  DATE
     ---------------   ----  --------      ---------------  --------
     WO 2003052411      A1   20030626      WO 2002-EP14029  20021211
         W:  AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN,
             CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH,
             GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR,
             LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH,
             PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ,
             UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD,
             RU, TJ, TM
         RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, BG,
             CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL,
             PT, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML,
             MR, NE, SN, TD, TG
     DE 10162300        A1   20030703      DE 2001-10162300 20011219
PRIORITY APPLN. INFO.:                    DE 2001-10162300 A  20011219
                                          DE 2002-10239972 A  20020830
AB   Gaseous or volatile substances which are either themselves odor-active or
     components of odor-active mixts. of substances are applied to fabrics.
     The amt. of these substances adsorbed by the textiles is then detd.  It is
     then detd. what amt. of these substances is desorbed again by the textiles
     upon storage.  Thus, textile deodorizing compn. comprises behenic acid,
     3-cyclodextrin, quaternary ammonium salt, dimethyloldihydroxyethylene
     urea, and magnesium chloride hexahydrate.
IT   35205-70-0, 3-Methyl-2-
     hexenoic acid
     RL: MSC (Miscellaneous)
        (odor, human perspiration; process for detg. odor-inhibiting properties
        of textile auxiliaries)
REFERENCE COUNT:          4     THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS
                                RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L16 ANSWER 2 OF 4  HCAPLUS  COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER:         1984:587409  HCAPLUS
DOCUMENT NUMBER:          101:187409
TITLE:                    Characterization of artefacts produced by treatment of
```

organic acids with diazomethane
AUTHOR(S): Bauer, Sonja; Neupert, Manfred; Spiteller, Gerhard
CORPORATE SOURCE: Univ. Bayreuth, Bayreuth, D-8580, Fed. Rep. Ger.
SOURCE: Journal of Chromatography (1984), 309(2), 243-59
CODEN: JOCRAM; ISSN: 0021-9673
DOCUMENT TYPE: Journal
LANGUAGE: English

AB When .alpha.,.beta.-unsatd. acids and .alpha.-keto acids react with diazomethane not only are the corresponding methylates produced, but also diazomethane is added to the C:C double bond or to the oxo group. The gas chromatog. and mass spectral behavior of these undesired products and some further artifacts produced in the hot inlet lines of a gas chromatog. are described. The mass spectra and retention indexes allowed the structural assignment of several unknown compds. found previously in the methylated acid fraction of **urine**. A detailed anal. of the reaction of .alpha.-oxo acids with diazomethane revealed that, besides the already known oxirane Me esters, homologous esters are also produced by an insertion reaction.

IT **92683-91-5 92683-92-6**
RL: ANST (Analytical study)
(spectroscopic data of)

L16 ANSWER 3 OF 4 HCAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1975:476691 HCAPLUS
DOCUMENT NUMBER: 83:76691
TITLE: Injection of carbon-14 labeled trans-**3-methyl-2-hexenoic acid** into schizophrenic patients and controls
AUTHOR(S): Smith, Kathleen
CORPORATE SOURCE: Sch. Med., Washington Univ., St. Louis, MO, USA
SOURCE: Orthomolecular Psychiatry (1972), 1(2-3), 118-20
CODEN: OMPSAT; ISSN: 0317-0217
DOCUMENT TYPE: Journal
LANGUAGE: English

AB After administration of trans-**3-methyl-2-hexenoic acid**, there was no difference between the decay of radioactivity in the serum of schizophrenic patients and controls. The radioactivity that appeared in the **urine** and sweat of both groups was primarily in the form of complex mols. and was not fully characterized.

L16 ANSWER 4 OF 4 HCAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1973:82710 HCAPLUS
DOCUMENT NUMBER: 78:82710
TITLE: Biochemical relation between Kryptopyrrole (mauve factor) and trans-**3-methyl-2-hexenoic acid** (schizophrenia odor)
AUTHOR(S): Krischer, Kenneth; Pfeiffer, Carl C.
CORPORATE SOURCE: Med. Sch., Univ. Miami, Miami, FL, USA
SOURCE: Research Communications in Chemical Pathology and Pharmacology (1973), 5(1), 9-15
CODEN: RCOCB8; ISSN: 0034-5164
DOCUMENT TYPE: Journal
LANGUAGE: English

AB A kryptopyrrole (KP) precursor 2,4-dimethyl-3-ethyl-5-carboxypyrrole is suggested as the logical metabolic precursor for KP and trans-**3-methyl-2-hexenoic acid** (TMHA the sweat odor substance) in some schizophrenics. The KP would be formed by decarboxylation, while TMHA would be formed by the sequential action of pyrrolase, deacetylase, and deaminase.

```
=> d stat que l18
L1             3 SEA FILE=REGISTRY ABB=ON  PLU=ON  ("3-METHYL-2-HEXENOIC
                 ACID"/CN OR "3-METHYL-2-HEXENOYL CHLORIDE"/CN OR "3-METHYL-2-HE
                 XENYL BROMIDE"/CN)
L2         97757 SEA FILE=REGISTRY ABB=ON  PLU=ON  3(L)METHYL(L)2(L)HEXEN?
L3         21887 SEA FILE=REGISTRY ABB=ON  PLU=ON  L2 AND ESTER
L4         13687 SEA FILE=REGISTRY ABB=ON  PLU=ON  L2 AND 3(W)METHYL
L5          1597 SEA FILE=REGISTRY ABB=ON  PLU=ON  L4 AND 2(W)HEXEN?
L6           754 SEA FILE=REGISTRY ABB=ON  PLU=ON  L5 AND L3
L7                SEL  PLU=ON  L1 1- CHEM :        6 TERMS
L8            48 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L7
L9           507 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L8 OR L6
L10        64280 SEA FILE=HCAPLUS ABB=ON  PLU=ON  (LITTER OR BEDDING OR WASTE
                 OR FECES OR URINE OR STALL) AND (ANIMAL OR PET OR DOG OR CAT
                 OR LIVESTOCK? OR HORSE OR CHICKE OR HEN OR FELINE OR COW)
L11         1174 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L10 AND (?ODOR? OR ?ODOUR? OR
                 STENCH)
L14           34 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L11 AND 13
L16            4 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L9 AND (LITTER OR BEDDING OR
                 WASTE OR FECES OR URINE OR STALL)
L18           34 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L14 NOT L16

=>
=>

=> d ibib abs hitrn l18 1-34

L18  ANSWER 1 OF 34  HCAPLUS  COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER:         2003:525311  HCAPLUS
TITLE:                    The reuse system and the compost, the dry fertilizer
                          and the carbonized fertilizer by the drying
                          fermentation carbonization of the domestic
                          animal feces and urine,
                          production method of the carbonized product. [Machine
                          Translation].
INVENTOR(S):              Ito, Katsuhiro
PATENT ASSIGNEE(S):       Japan
SOURCE:                   Jpn. Kokai Tokkyo Koho, 9 pp.
                          CODEN: JKXXAF
DOCUMENT TYPE:            Patent
LANGUAGE:                 Japanese
FAMILY ACC. NUM. COUNT:   1
PATENT INFORMATION:

     PATENT NO.        KIND  DATE          APPLICATION NO.  DATE
     ---------------   ----  --------      ---------------  --------
     JP 2003192475     A2    20030709      JP 2001-403282   20011225
PRIORITY APPLN. INFO.:                    JP 2001-403282   20011225
AB   [Machine Translation of Descriptors]. Other than the dry fertilizer and
     the carbonized fertilizer, it is something which assures the effective
     utilization to the carbonized product which has been obsd. recently not
     only the effective utilization, this invention the system processes the
     various feces and urine which the domestic
     animal discharges efficiently, being something which designates
     that the energy conservation and perfect deodorization are
     assured as purpose, the compost (compost) converts normally not only. The
     2nd route where properly it throws to dehydrator 11 the feces
     and urine which mixing are done, with the dry 15 burner, make
     the domestic animal feces and urine dry, on
     the one hand, deodorize with the deodorization
     13 burner, make dry ones 16 which, were adjusted moisture 60% are
     sent in the primary fermn. tank and secondary fermn. tank 20 ferment are
```

processed, via the curing room 24, dry adjustment machine 26 or send the 1st route which is made 25 composts of moisture 20% and dry ones 16 which were adjusted moisture 60% to carbonizing machine 27, make dry ones of moisture 30% and the carbide of moisture 3% and, 1st Surplus of 25 composts which were made with route dry adjustment machine 26 or is sent to carbonizing machine 27, it is the reuse system by the drying fermn. carbonization of the domestic **animal feces** and **urine** which are compounded with the 3rd route which moisture 30% dry ones and moisture 3% make the carbide.

L18 ANSWER 2 OF 34 HCAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 2003:474271 HCAPLUS
TITLE: **Odor** and gas release from anaerobic treatment lagoons for swine manure
AUTHOR(S): Lim, Teng-Teeh; Heber, Albert J.; Ni, Ji-Qin; Sutton, Alan L.; Shao, Ping
CORPORATE SOURCE: Agricultural and Biological Engineering Dep., Purdue Univ., West Lafayette, IN, 47907, USA
SOURCE: Journal of Environmental Quality (2003), 32(2), 406-416
CODEN: JEVQAA; ISSN: 0047-2425
PUBLISHER: American Society of Agronomy
DOCUMENT TYPE: Journal
LANGUAGE: English
AB **Odor** and gas release from anaerobic lagoons for treating swine **waste** affect air quality in neighboring communities but rates of release are not well documented. A buoyant convective flux chamber (BCFC) was used to det. the effect of lagoon loading rate on measured **odor** and gas releases from two primary lagoons at a simulated wind speed of 1.0 m s-1. Concns. of ammonia (NH3), hydrogen sulfide (H2S), carbon dioxide (CO2), sulfur dioxide (SO2), and nitric oxide (NO) in 50-L air samples were measured. A panel of human subjects, whose sensitivity was verified with a certified ref. **odorant**, evaluated **odor** concn., intensity, and hedonic tone. Geometric mean **odor** concns. of BCFC inlet and outlet samples and of downwind berm samples were 168 .+-. 44 (mean .+-. 95% confidence interval), 262 .+-. 60, and 114 .+-. 38 OUE m-3 (OUE, European **odor** unit, equiv. to 123 .mu.g n-butanol), resp. The overall geometric mean **odor** release was 2.3 .+-. 1.5 OUE s-1 m-2 (1.5 .+-. 0.9 OU s-1 m-2). The live mass specific geometric mean **odor** release was **13**.5 OUE s-1 AU-1 (**animal** unit = 500 kg live body mass). Overall mean NH3, H2S, CO2 and SO2 releases were 101 .+-. 24, 5.7 .+-. 2.0, 852 .+-. 307, and 0.5 .+-. 0.4 .mu.g s-1 m-2, resp. Nitric oxide was not detected. **Odor** concns. were directly proportional to H2S and CO2 concns. and **odor** intensity, and inversely proportional to hedonic tone and SO2 concn. ($P < 0.05$). Releases of NH3, H2S, and CO2 were directly proportional ($P < 0.05$) to volatile solids loading rate (VSLR).
REFERENCE COUNT: 44 THERE ARE 44 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L18 ANSWER 3 OF 34 HCAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 2002:356086 HCAPLUS
DOCUMENT NUMBER: 136:336372
TITLE: N-methyl-2-pyrrolidone
AUTHOR(S): Akesson, Bengt
CORPORATE SOURCE: Department of Occupational & Environmental Health, University Hospital, Lund, Swed.
SOURCE: Concise International Chemical Assessment Document (2001), 35, i-iv,1-34
CODEN: CCADFI; ISSN: 1020-6167
PUBLISHER: World Health Organization
DOCUMENT TYPE: Journal; General Review
LANGUAGE: English

AB A review. This CICAD on N-methyl-2-pyrrolidone was based primarily on a review prepd. for the Nordic Expert Group and on a review of human health concerns prepd. by the United Kingdom's Health and Safety Executive (HSE, 1997). For data on environmental fate and behavior, no comprehensive document of the same status was identified. Instead, HSDB (1997) was used as an addnl. source document. Supplementary unvalidated data, mainly ecotoxicol., were found in IUCLID (1995), and some addnl. articles were identified in the open literature (searched through July 1998). Information concerning the nature and availability of the source documents is presented in Appendix 1. Information on the peer review of this CICAD is presented in Appendix 2. This CICAD was considered at a meeting of the Final Review Board, held in Stockholm, Sweden, on 25-28 May 1999. Participants at the Final Review Board meeting are listed in Appendix 3. After the Final Review Board meeting, advice was sought from a consultative group, consisting of Dr B. Heinrich-Hirsch, BgVV, Germany, Mr Frank Sullivan, Consultant, United Kingdom, Dr Robert Chapin, National Institute of Environmental Health Sciences, USA, Dr Gary Kimmel, US Environmental Protection Agency, USA, and Professor Rolf Hertel, BgVV, Germany (Chair), regarding the interpretation of data on the reproductive toxicity of N-methyl-2-pyrrolidone. Based on the advice from this group, the author, in collaboration with the Secretariat, revised the relevant sections of the document. The revised CICAD was approved as an international assessment by the members of the Final Review Board in a mail ballot. The International Chem. Safety Card for N-methyl-2-pyrrolidone (ICSC 0513), produced by the International Program on Chem. Safety (IPCS, 1993), has also been reproduced in this document. N-Methyl-2-pyrrolidone (NMP) (CAS No. 872-504) is a water-miscible org. solvent. It is a hygroscopic colorless liq. with a mild amine **odor**. NMP is used in the petrochem. industry, in the microelectronics fabrication industry, and in the manuf. of various compds., including pigments, cosmetics, drugs, insecticides, herbicides, and fungicides. An increasing use of NMP is as a substitute for chlorinated hydrocarbons. NMP may enter the environment as emissions to the atm., as the substance is volatile and widely used as a solvent, or it may be released to water as a component of municipal and industrial wastewaters. The substance is mobile in soil, and leaching from landfills is thus a possible route of contamination of groundwater. In air, NMP is expected to be removed by wet deposition or by photochem. reactions with hydroxyl radicals. As the substance is completely miscible in water, it is not expected to adsorb to soil, sediments, or suspended org. matter or to bioconc. NMP is not degraded by chem. hydrolysis. Data from screening tests on the biodegradability of NMP show that the substance is rapidly biodegraded. In rats, NMP is absorbed rapidly after inhalation, oral, and dermal administration, distributed throughout the organism, and eliminated mainly by hydroxylation to polar compds., which are excreted via **urine**. About 80% of the administered dose is excreted as NMP and NMP metabolites within 24 h. A probably dose-dependent yellow coloration of the **urine** in rodents is obsd. The major metabolite is 5-hydroxy-N-methyl-2-pyrrolidone. Studies in humans show comparable results. Dermal penetration through human skin has been shown to be very rapid. NMP is rapidly biotransformed by hydroxylation to 5-hydroxy-N-methyl-2-pyrrolidone, which is further oxidized to N-methylsuccinimide; this intermediate is further hydroxylated to 2-hydroxy-N-methylsuccinimide. These metabolites are all colorless. The excreted amts. of NMP metabolites in the **urine** after inhalation or oral intake represented .apprx.100% and 65% of the administered doses, resp. NMP has a low potential for skin irritation and a moderate potential for eye irritation in rabbits. Repeated daily doses of 450 mg/kg body wt. administered to the skin caused painful and severe hemorrhage and eschar formation in rabbits. These adverse effects have not been seen in workers occupationally exposed to pure NMP, but they have been obsd. after dermal exposure to NMP used in cleaning processes. No sensitization potential has been obsd. In acute toxicity studies in

rodents, NMP showed low toxicity. Uptake of oral, dermal, or inhaled acutely toxic doses causes functional disturbances and depressions in the central nervous system. Local irritation effects were obsd. in the respiratory tract when NMP was inhaled and in the pyloric and gastrointestinal tracts after oral administration. In humans, there was no irritative effect in the respiratory system after an 8-h exposure to 50 mg/m3. There is no clear toxicity profile of NMP after multiple administration. In a 28-day dietary study in rats, a compd.-related decrease in body wt. gain was obsd. in males at 1234 mg/kg body wt. and in females at 2268 mg/kg body wt. Testicular degeneration and atrophy in males and thymic atrophy in females were obsd. at these dose levels. The no-obsd.-adverse-effect level (NOAEL) was 429 mg/kg body wt. in males and 1548 mg/kg body wt. in females. In a 28-day intubation study in rats, a dose-dependent increase in relative liver and kidney wts. and a decrease in lymphocyte count in both sexes were obsd. at 1028 mg/kg body wt. The NOAEL in this study was 514 mg/kg body wt. In another rat study, daily dietary intake for 90 days caused decreased body wts. at doses of 433 and 565 mg/kg body wt. in males and females, resp. There were also neurobehavioural effects at these dose levels. The NOAELs in males and females were 169 and 217 mg/kg body wt., resp. The toxicity profile after exposure to airborne NMP depends strongly on the ratio of vapor to aerosol and on the area of exposure (i.e., head-only or whole-body exposure). Because of higher skin absorption for the aerosol, uptake is higher in **animals** exposed to aerosol than in those exposed to vapor at similar concns. Studies in female rats exposed heat only to 1000 mg/m3 showed only minor nasal irritation, but massive mortality and severe effects on major organs were obsd. when the females were whole-body exposed to the same concn. of coarse droplets at high relative humidity. Several studies in rats following repeated exposure to NMP at concns. between 100 and 1000 mg/m3 have shown systemic toxicity effects at the lower dose levels. In most of the studies, the effects were not obsd. after a 40-wk observation period. In rats, exposure to 3000 mg NMP/m3 (head only) for 6 h/day, 5 days/wk, for **13** wk caused a decrease in body wt. gain, an increase in erythrocytes, Hb, hematocrit, and mean corpuscular vol., decreased abs. testis wt., and cell loss in the germinal epithelium of the testes. The NOAEL was 500 mg/m3. There are no data in humans after repeated-dose exposure. NMP did not show any clear evidence for carcinogenicity in rats exposed to concns. up to 400 mg/m3 in a long-term inhalation study. The mutagenic potential of NMP is weak. Only a slight increase in the no. of revertants was obsd. when tested in a Salmonella assay with base-pair substitution strains. NMP has been shown to induce aneuploidy in yeast Saccharomyces cerevisiae cells. No investigations regarding mutagenicity in humans were available. In a 2-generation reprodn. study in rats, whole-body exposure of both males and females to 478 mg/m3 NMP vapor for 6 h/day, 7 days/wk, for a min. of 100 days (pre-mating, mating, gestation, and lactation periods) resulted in a 7% decrease in fetal wt. in the F1 offspring. A 4-11% transient, non-dose-dependent decrease was obsd. in the av. pup wt. at all exposure levels tested (41, 206, and 478 mg/m3). When NMP was administered dermally, developmental toxicity was registered in rats at 750 mg/kg body wt. The obsd. effects were increased preimplantation losses, decreased fetal wts., and delayed ossification. The NOAEL for both developmental effects and maternal toxicity (decreased body wt. gain) was 237 mg/kg body wt. Inhalation studies in rats (whole-body exposure) demonstrated developmental toxicity as increased preimplantation loss without significant effect on implantation loss without significant effect on implantation rate or no. of live fetuses at 680 mg/m3 and behavioral developmental toxicity at 622 mg/m3. In an inhalation study (whole-body exposure), the NOAEL for maternal effects was 100 mg/m3, and the NOAEL for developmental effects was 360 mg/m3. Several further studies on the reproductive effects of NMP have been performed, but these have not been published and are not generally available. For the information of the reader, a short synopsis of these studies is presented in section 8.7.3 of

this document. However, the studies are not used in the evaluation of the health effect of NMP. A tolerable inhalation concn., 0.3 mg/m3, based on mortality and organ damage, is expected to be protective against any possible reproductive toxicity. Similarly, an oral tolerable intake of 0.6 mg/kg body wt. per day, based on a 90-day study, is expected to provide adequate protection against possible reproductive effects. Because of non-existent data on the exposure of the general population and very limited information on occupational exposure, no meaningful risk characterization can be performed. It is not possible to perform a quant. ecotoxicol. risk assessment on the basis of the present data. However, based on the biodegradability shown, the lack of expected bioconcn. (based on a log octanol-water partition coeff. of -0.38), and the indicated low acute toxicity to aquatic organisms as well as birds, it is tentatively concluded that NMP should not pose a significant environmental risk.

REFERENCE COUNT: 102 THERE ARE 102 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L18 ANSWER 4 OF 34 HCAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 2002:217004 HCAPLUS
DOCUMENT NUMBER: 137:23818
TITLE: Efficient feed nutrient utilization to reduce pollutants in poultry and swine manure
AUTHOR(S): Nahm, K. H.
CORPORATE SOURCE: Feed and Nutrition Laboratory, College of Natural Resources, Taegu University, Gyong San, 712-714, S. Korea
SOURCE: Critical Reviews in Environmental Science and Technology (2002), 32(1), 1-16
CODEN: CRETEK; ISSN: 1064-3389
PUBLISHER: CRC Press LLC
DOCUMENT TYPE: Journal
LANGUAGE: English

AB High-d. **livestock** facilities lead to a concn. of **livestock wastes** and subsequent leakage of pollutants into the environment, resulting in public concern about their effects. N and P are the most harmful components of **animal** manure, but **odor** from the manure itself and the **livestock** facilities is also a problem. Improving the nutrient efficiency of the **livestock** helps to decrease excretion of these environmental contaminants. Pigs and chickens are the main **animals** used in studies to improve nutrient efficiency to reduce excretion of environmental contaminants. Addn. of feed supplements and modifying feeding programs to improve nutrient efficiency can result in significant decreases in the N, P, **odor**, and dry matter (DM) wt. of manure. The addn. of synthetic amino acids and reducing protein contents resulted in N redns. of 10-27% in broilers, 18-35% in chicks and layers, 19-62% in pigs, and a 9-43% redn. in **odor** from pigs. Enzyme supplementation resulted in a 12-15% redn. in DM wt. of broiler manure. Phytase supplementation resulted in P redns. of 25-35% in chickens and 25-60% in pigs. The use of growth-promoting substances resulted in a 5-30% redn. in N and a 53-56% redn. in **odor** from pigs. Formulating diets closer to requirements (diet modification) reduced N and P by 10-15% each in chickens and pigs, and **odor** by 28-79% in pigs. Phase feeding reduced N and P excretion by chicken and pigs from 10 to 33% and 10 to **13**% each, as well as **odor** in growing and finishing pigs by 49-79%. Use of highly digestible raw materials in feed reduced N and P excretion by 5% in chickens and pigs. Certain feed manufg. techniques (grinding feed grains and proper particle size, feed uniformity in rations, or expanding and pelleting) when done properly can significantly reduce N, P, and **odor** contents and DM wt. of chicken and pig manure. Feed with proper grinding reduced 27% of N in finishing pigs and 22-23% redn. of N in piglet fed with pelleting, 60%

redn. of NH3 emission fed with finely ground Zeolites in pig, and a 26% redn. of DM wt. in finishing pigs fed with proper grinding were reported, but further research is needed in this area. Coordinating actual feed anal. results with prodn. technique modifications is needed to reduce environmental contamination by **animal** manure, but specialists may need to be consulted for the successful implementation of these efforts.

REFERENCE COUNT: 93 THERE ARE 93 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L18 ANSWER 5 OF 34 HCAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 2002:32570 HCAPLUS
DOCUMENT NUMBER: 136:260289
TITLE: **Odorant** source used in Eurasian beaver territory marking
AUTHOR(S): Rosell, Frank; Sundsdal, Lars Jorán
CORPORATE SOURCE: Faculty of Arts and Sciences, Department of Environmental and Health Studies, Telemark University College, Telemark, N-3800, Norway
SOURCE: Journal of Chemical Ecology (2001), 27(12), 2471-2491
CODEN: JCECD8; ISSN: 0098-0331
PUBLISHER: Kluwer Academic/Plenum Publishers
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Mammals use **urine**, **feces**, or the secretion of specialized skin glands to mark their territories. These sources can carry different information and, thus, have different functions. Presently, it is not known if beavers (Castor spp.) deposit castoreum (primarily a mixt. of secondary metabolites from **urine**) from the castor sacs and secretion from the anal glands (AGS) together or alone when scent marking their territories. We hypothesized that castoreum would be the main scent signal used in the defense of beaver territories during winter and predicted that castoreum would be deposited more often than AGS. A total of 96 scent marks on snow were collected from Jan. 1 to Mar. 31, 1997-1999 in the Bo River, Telemark County, Norway. In order to obtain control material, we chem. analyzed AGS and castoreum from 60 dead beavers collected during Jan.-May 1997-1999. We compared the compds. found in the dead beavers with compds. found in the scent marks on snow. Samples were analyzed by using gas chromatog.-mass spectrometry (GC-MS). All 96 scent marks contained compds. from castoreum, whereas compds. from AGS were found in only four scent marks. This suggests that beavers do not specifically deposit AGS on scent mounds as they do with castoreum and that the AGS compds. we found probably were remnants of AGS from the feet or fur following pelt lubrication or coprophagy behavior. We conclude that castoreum is the main scent signal used in the defense of beaver territories during winter.

REFERENCE COUNT: 60 THERE ARE 60 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L18 ANSWER 6 OF 34 HCAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 2001:911923 HCAPLUS
DOCUMENT NUMBER: 137:113659
TITLE: Carvacrol and Thymol Reduce Swine **Waste Odor** and Pathogens: Stability of Oils
AUTHOR(S): Varel, Vincent H.
CORPORATE SOURCE: United States Department of Agriculture, Agricultural Research Service, Roman L. Hruska U.S. Meat Animal Research Center, Clay Center, NE, 68933, USA
SOURCE: Current Microbiology (2002), 44(1), 38-43
CODEN: CUMIDD; ISSN: 0343-8651
PUBLISHER: Springer-Verlag New York Inc.
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Incomplete anoxic fermn. of **livestock waste** results in offensive **odor** emissions. Antimicrobial additives may be useful in controlling **odor** emissions and pathogens. Natural antimicrobial compds., carvacrol or thymol at 16.75mM (2.5 g/L) completely inhibited the prodn. of the offensive **odor** compds., isobutyrate, valerate, isovalerate, and cresol, and significantly reduced other short-chain volatile fatty acids and gas emissions from swine **waste**. Fecal coliforms were reduced from 6.3 .times. 106 to 1.0 .times. 103 cells/mL 2 days after treatment with carvacrol (**13** .3mM) and were not detectable within 14 days. Total culturable anaerobic bacteria were reduced from 12.4 .times. 1010 to 7.2 .times. 108 cells/mL after 2 days and were suppressed below this level for 28 days. Lactate prodn. was not prevalent in untreated swine **waste** indicating that the microbial populations differ from those in cattle **waste** . Carvacrol and thymol were stable in swine **waste** under anoxic conditions for 62 days with 90-95% of the additive being recovered in the **waste** solids. Carvacrol and thymol are not metabolized in anoxic swine **waste** and they are potentially useful in controlling **odor** emissions and pathogens in swine **waste**.

REFERENCE COUNT: 18 THERE ARE 18 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L18 ANSWER 7 OF 34 HCAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 2001:520913 HCAPLUS
DOCUMENT NUMBER: 135:208482
TITLE: Genetics of chemosensory identity
AUTHOR(S): Yamazaki, Kunio
CORPORATE SOURCE: Monell Chemical Senses Center, Philadelphia, USA
SOURCE: Aroma Research (2001), 2(2), 202-207
CODEN: ARREFJ; ISSN: 1345-4722
PUBLISHER: Furegurangsu Janaru Sha
DOCUMENT TYPE: Journal; General Review
LANGUAGE: Japanese

AB A review with **13** refs. Genes located within the major histocompatibility complex (MHC) of mice are responsible for individual differences in body **odor** (**odortypes**). In this review we suggest that the MHC genes themselves are responsible for **odor** differences among MHC-congenic mice. Studies described indicating that volatile carboxylic acids are at least in part responsible for the individual **odors** and what this finding implies about the pathway from gene to **odorant** are also reviewed. We suggest that **odorants** or their precursors are bound directly by MHC products and are released into serum and concd. in **urine**.

L18 ANSWER 8 OF 34 HCAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 2001:338762 HCAPLUS
DOCUMENT NUMBER: 134:362292
TITLE: Methods of determining individual hypersensitivity to a pharmaceutical agent from gene expression profile
INVENTOR(S): Farr, Spencer
PATENT ASSIGNEE(S): Phase-1 Molecular Toxicology, USA
SOURCE: PCT Int. Appl., 222 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001032928	A2	20010510	WO 2000-US30474	20001103
WO 2001032928	A3	20020725		

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN,

CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

PRIORITY APPLN. INFO.: US 1999-165398P P 19991105
US 2000-196571P P 20000411

AB The invention discloses methods, gene databases, gene arrays, protein arrays, and devices that may be used to det. the hypersensitivity of individuals to a given agent, such as drug or other chem., in order to prevent toxic side effects. In one embodiment, methods of identifying hypersensitivity in a subject by obtaining a gene expression profile of multiple genes assocd. with hypersensitivity of the subject suspected to be hypersensitive, and identifying in the gene expression profile of the subject a pattern of gene expression of the genes assocd. with hypersensitivity are disclosed. The gene expression profile of the subject may be compared with the gene expression profile of a normal individual and a hypersensitive individual. The gene expression profile of the subject that is obtained may comprise a profile of levels of mRNA or cDNA. The gene expression profile may be obtained by using an array of nucleic acid probes for the plurality of genes assocd. with hypersensitivity. The expression of the genes predetd. to be assocd. with hypersensitivity is directly related to prevention or repair of toxic damage at the tissue, organ or system level. Gene databases arrays and app. useful for identifying hypersensitivity in a subject are also disclosed.

L18 ANSWER 9 OF 34 HCAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 2001:170045 HCAPLUS
DOCUMENT NUMBER: 134:256272
TITLE: Plant-derived oils reduce pathogens and gaseous emissions from stored cattle **waste**
AUTHOR(S): Varel, Vincent H.; Miller, Daniel N.
CORPORATE SOURCE: Roman L. Hruska U.S. Meat Animal Research Center, Agricultural Research Service, USDA, Clay Center, NE, 68933, USA
SOURCE: Applied and Environmental Microbiology (2001), 67(3), 1366-1370
CODEN: AEMIDF; ISSN: 0099-2240
PUBLISHER: American Society for Microbiology
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Carvacrol and thymol in combination at 6.7 mM each completely inhibited the prodn. of short-chain volatile fatty acids and lactate from cattle **waste** in anoxic flasks over 23 days. Fecal coliforms were reduced from 4.6 .times. 106 to 2.0 .times. 103 cells per mL 2 days after treatment and were nondetectable within 4 days. Total anaerobic bacteria were reduced from 8.4 .times. 1010 to 1.5 .times. 107 cells per mL after 2 days and continued to be suppressed to that level after 14 days. If the concn. of carvacrol or thymol were doubled (**13**.3 mM), either could be used to obtain the same inhibitory fermn. effect. We conclude that carvacrol or thymol may be useful as an antimicrobial chem. to control pathogens and **odor** in stored **livestock waste**.

REFERENCE COUNT: 28 THERE ARE 28 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L18 ANSWER 10 OF 34 HCAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1999:372620 HCAPLUS
DOCUMENT NUMBER: 131:77755

TITLE: Composting greenery in residential communities
AUTHOR(S): Guzman, Roberto
CORPORATE SOURCE: Villages Golf and Country Club, San Jose, CA, USA
SOURCE: BioCycle (1999), 40(5), 53-54
CODEN: BCYCDK; ISSN: 0276-5055
PUBLISHER: JG Press, Inc.
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Recycling all landscape greenery is a major goal fo the San Jose, California, Villages Golf and Country Club. A composting program, begun in 1989, was designed to save money spend on landfilling and soil amendments, protect the environment by extending landfill life, and returning valuable org. resources to the soil. In addn., water, fertilizer, and pesticide use all declined. Better ways to control 2 problem areas, **odor** and potential leachate, were developed. Compost feed includes wood chips, grass clippings, leaves, ground brush, and manure. Av. processing time is 90 days. Once materials are mixed and the pile is formed, the goal is prevention of anaerobic conditions by monitoring temp., O2, and moisture levels; frequent turning; and proper watering. This compost program diverts **13**,000 yd3 of green material from the **waste** stream and generates almost 5,000 yd3 of finished product, and saves the Villages .apprx.$200,000 annually.

L18 ANSWER 11 OF 34 HCAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1997:476355 HCAPLUS
DOCUMENT NUMBER: 127:160127
TITLE: Human Flavin-Containing Monooxygenase Form 3: cDNA Expression of the Enzymes Containing Amino Acid Substitutions Observed in Individuals with Trimethylaminuria
AUTHOR(S): Cashman, John R.; Bi, Yi-An; Lin, Jing; Youil, Rima; Knight, Melanie; Forrest, Susan; Treacy, Eileen
CORPORATE SOURCE: Seattle Biomedical Research Institute, Seattle, WA, 98109, USA
SOURCE: Chemical Research in Toxicology (1997), 10(8), 837-841
CODEN: CRTOEC; ISSN: 0893-228X
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Trimethylaminuria is an autosomal recessive human disorder affecting a small part of the population as an inherited polymorphism. Individuals diagnosed with trimethylaminuria excrete relatively large amts. of trimethylamine in their **urine**, sweat, and breath, and this results in a fishy **odor** characteristic of trimethylamine. Activity of the human flavin-contg. monooxygenase (FMO) has been proposed to be deficient in trimethylaminuria patients causing a decrease in the metab. of trimethylamine that results in a fishy body **odor**. Cohorts of Australian, American, and British individuals suffering from trimethylaminuria have been identified. The human FMO3 cDNA was amplified from lymphocytes of affected patients. We report preliminary evidence of substitutions detected by screening of the cDNA and genomic DNA. The variant human FMO3 cDNA was constructed from wild type human FMO3 cDNA by site-directed mutagenesis as maltose-binding protein fusions. Five distinct human FMO3 mutants were expressed as fusion proteins in Escherichia coli and compared with wild type human FMO3 maltose-binding proteins (FMO3-MBP) for the N-oxygenation of 10-[(N,N-dimethylamino)pentyl]-2-(trifluoromethyl)phenothiazine, tyramine, and trimethylamine. Human Lys158 FMO3-MBP and, to a greater extent, human Glu158 FMO3-MBP efficiently N-oxygenated the three amine substrates. Human Lys158 Ile66 FMO3-MBP, Glu158 Ile66 FMO3-MBP, Lys158 Leu153 FMO3-MBP, and Glu158 Leu153 FMO3-MBP were all constructed as mutants identified as possible FMO3 variants responsible for trimethylaminuria and were found to be inactive as N-oxygenases. The results suggest that

mutations at codons 66 and 153 of FMO3 can cause trimethylaminuria in humans. We obsd.. a common polymorphism of Lys to Glu at codon 158 of FMO3 that segregated with almost equal allele frequencies in a no. of control Australian and North American samples studied. The Lys158 to Glu158 human FMO3 polymorphism does not decrease trimethylamine N-oxygenation for the cDNA-expressed enzyme and thus does not appear to be causative of trimethyaminuria. The data show that the functional activity of human FMO3 can be significantly altered by amino acid changes that have been obsd. in individuals with clin. diagnosed trimethylaminuria.

L18 ANSWER 12 OF 34 HCAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1997:460295 HCAPLUS
DOCUMENT NUMBER: 127:85219
TITLE: Function of biofilter in cleaning exhaust air from **animal** husbandry
AUTHOR(S): Poehle, H.
CORPORATE SOURCE: Institute of Animal Hygiene and Public Health, Faculty of Veterinary Medicine, University of Leipzig, Leipzig, 04103, Germany
SOURCE: Atmospheric Ammonia: Emission, Deposition and Environmental Impacts, Poster Proceedings, Poster Papers and Abstracts from the International Conference on Atmospheric Ammonia, Abingdon, UK, Oct. 2-4, 1995 (1996), Meeting Date 1995, 38-42. Editor(s): Sutton, Mark A. Institute of Terrestrial Ecology., Edinburgh Research Station: Penicuik, UK.
CODEN: 64ROAR
DOCUMENT TYPE: Conference
LANGUAGE: English
AB A new type of downstream biofilter with seep water recirculation was installed for cleaning dedusted **waste** air from fattening pigs kept on a deep **litter** system. Beside ammonia detection in crude gas and clean gas by indophenol method, test tubes (Draeger) and photoacoustic spectroscopy, a continuous measurement of dinitrous oxide (N2O) and carbon dioxide (CO2) was carried out. **Odorant** concn. was detd. by olfactometry. The detn. of ammonium (NH4+), nitrate (NO3-) and nitrite (NO2-) demonstrates the deposition of possible metabolites of nitrification in the filter medium in different layers and in seep water. At a filter vol. load of 115 m3/m3-h, the removal efficiency of was 96,2-100 % for NH3 and 97,0-100 % for **odor** abatement. But only a small amt. of calcd. ammonia N-input of around 505 g could be found in the form of NO3- (90 g), NH4+ (**13** g) and NO2- (7 g) during a period of 165 days. The loss of nitrogen (N) could not be explained by release of N2O. Results are discussed in connection to microbial investigations concerning nitrification/denitrification activities.

L18 ANSWER 13 OF 34 HCAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1995:283474 HCAPLUS
DOCUMENT NUMBER: 122:37869
TITLE: Control of ammonia emission and **odor**
INVENTOR(S): Van Ooijen, Johannes Adrianus Cornelis
PATENT ASSIGNEE(S): Verdugt B.V., Neth.
SOURCE: Eur. Pat. Appl., 5 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 620014	A2	19941019	EP 1994-302497	19940408
R: DE, DK, NL				

PRIORITY APPLN. INFO.: GB 1993-7651 19930414

AB This invention relates to a method of controlling or preventing ammonia emission from **waste** material capable of generating ammonia as such or after degrdn. over a period, said process comprising applying on the **waste** material, e.g., manure, night soil, or compost, an effective amt. of a compn. comprising a naturally occurring oil which is substantially immiscible with water. The oils may be **animal** oils, e.g., lard oil, tallow, neat's foot oil, whale oil, and sperm oil, or plant oils, e.g., corn oil, cotton seed oil, linseed oil, neem oil, niger-seed oil, olive oil, palm oil, peanut oil, poppy-seed oil, rapeseed oil, safflower oil, sesame oil, soybean oil, sunflower-seed oil, and wheat-germ oil. The oils may be mixed with water-immiscible aliph. carboxylic acids, e.g., myristic acid, palmitic acid, stearic acid, arachidic acid, pamitoleic acid, oleic acid, ricinoleic acid, petroselinic acid, vaccenic acid, linoleic acid, linolenic acid, eliostearic acid, licanic acid, parinaric acid, tariric acid, gadoleic acid, arachidonic acid, cetoleic acid, erucic acid, and nervonic acid.

L18 ANSWER 14 OF 34 HCAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1993:260717 HCAPLUS
DOCUMENT NUMBER: 118:260717
TITLE: **Deodorants** composed of gel beads containing perfumes and colorants and perfume-treated zeolites for **litter** boxes
INVENTOR(S): Hirata, Junichiro; Sato, Shigeki
PATENT ASSIGNEE(S): Mitsubishi Materials Corp, Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 3 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 05049363	A2	19930302	JP 1991-215507	19910827

PRIORITY APPLN. INFO.: JP 1991-215507 19910827

AB **Deodorants** composed of gel beads, obtained by dropwise addn. of an aq. soln. contg. **deodorant** perfumes, Na alginate , and colorants to an aq. CaCl2 soln., and zeolites contg. the **deodorant** perfumes are claimed. The **deodorants** are safe to **animals** and prevent **odor** from excrements of **pets** for a long time. A mixt. of 5 mL lemon grass oil (a water dispersion), 0.2 g Japan Blue-1, and aq. CaCl2 soln. (2.3 wt.%) (total vol. 100 mL) was added dropwise to an aq. CaCl2 soln. (0.5 wt.%) to give gel beads. The gel beads (200 g) was mixed with 80 g zeolite impregnated with lemon grass oil (water dispersion) and the mixt. was placed in a **litter** box for **cats**. Concn. of NH3 in the box after 72 h was 0.4 ppm, vs. **13** ppm for a control.

L18 ANSWER 15 OF 34 HCAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1992:590495 HCAPLUS
DOCUMENT NUMBER: 117:190495
TITLE: Toxicity and carcinogenicity studies of Caramel Color IV in F344 rats and B6C3F1 mice
AUTHOR(S): MacKenzie, K. M.; Boysen, B. G.; Field, W. E.; Petsel, S. R. W.; Chappel, C. I.; Emerson, J. L.; Stanley, J.
CORPORATE SOURCE: Hazleton Lab. America, Inc., Madison, WI, 53707, USA
SOURCE: Food and Chemical Toxicology (1992), 30(5), 431-43
CODEN: FCTOD7; ISSN: 0278-6915
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Caramel Color IV, a type of caramel color used in the manuf. of cola soft

drinks, was evaluated for subchronic and chronic toxicity in rats, and carcinogenicity in Fischer-344 (F344) rats and B6C3F1 mice. In each of the studies, Caramel Color IV was mixed with demineralized water and the solns. given to the **animals** ad libitum in the drinking fluid. The concns. of Caramel Color IV in the drinking fluid were adjusted periodically to achieve the desired caramel color intake per kg body wt. In the range-finding studies, groups of 30 rats/sex were given Caramel Color IV at levels of 0, 15, 20, 25, or 30 g/kg for **13** wk, and groups of 10 male rats were given levels of 0, 2.5, 5, 10, or 15 g/kg for 6 wk followed, for some dose groups, by a 2-wk withdrawal period, and then re-initiation of dosing for another 2 wk. In the rat chronic toxicity study, 0, 2.5, 5, 7.5, or 10 g Caramel Color IV/kg were given to groups of 25 rats/sex for 12 mo. The test groups in the rat and mouse carcinogenicity studies were composed of 50 **animals**/sex, and each species was given the caramel color at levels of 0, 0, 2.5, 5, or 10 g/kg for 24 mo. In each of the studies, treated **animals** tended to have dose-related lower water consumption than controls. This was attributed to poor palatability of the drinking fluid, and was generally assocd. with decreased food consumption and body wts. Rats given caramel color often had soft or liq. **malodorous feces** although there were no treatment-related ante-mortem observations in mice. Blood biochem. changes in the rat (i.e. reduced blood urea nitrogen, alk. phosphatase, and total serum protein) appeared to be related to dietary influences and were not considered toxicol. significant. There were no treatment-related alterations in hematol. variables or treatment-related differences in survival or in the incidence of benign or malignant tumors among treated and control groups and no toxicol. important pathol. findings. On the basis of these studies, Caramel Color IV was not toxic or carcinogenic in F344 rats or B6C3F1 mice. The highest dose level tested in the long-term studies (10 g/kg) was considered to be the no-obsd.-adverse-effect level.

L18 ANSWER 16 OF 34 HCAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1992:220525 HCAPLUS
DOCUMENT NUMBER: 116:220525
TITLE: Measurement of offensive **odor** in Nagasaki Prefecture. (Report No. 18). Measurement of lower fatty acids
AUTHOR(S): Yamaguchi, Yasushi; Matsuse, Noriaki; Miyawaki, Hiroyuki; Shigeno, Satoshi; Kobayashi, Shigeru
CORPORATE SOURCE: Nagasakiken Eiseikogai Kenkyusho, Nagasaki, Japan
SOURCE: Nagasaki-ken Eisei Kogai Kenkyushoho (1990), 33, 35-7
CODEN: NKHODN; ISSN: 0914-0301
DOCUMENT TYPE: Journal
LANGUAGE: Japanese
AB The **malodor** from piggeries, a cattle ranch, a chicken farm, and a night soil treatment facility was analyzed for low fatty acids. The fatty acids found were propionic acid 0.**13**-63, butyric acid 0.11-75, iso-valeric acid 0.4-14, and valeric acid <5.1 ppb.

L18 ANSWER 17 OF 34 HCAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1989:25612 HCAPLUS
DOCUMENT NUMBER: 110:25612
TITLE: Manufacture of degradable absorbent material from cellulosic fiber **waste**
INVENTOR(S): Phillips, Christopher R.
PATENT ASSIGNEE(S): USA
SOURCE: PCT Int. Appl., 31 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 8805067	A1	19880714	WO 1987-US3497	19871231
W: AU, BR, DK, FI, HU, JP, KR, NO, RO, SU, US				
RW: AT, BE, CH, DE, FR, GB, IT, LU, NL, SE				
AU 8812239	A1	19880727	AU 1988-12239	19871231
US 4931139	A	19900605	US 1987-236678	19871231
CA 1313468	A1	19930209	CA 1988-555800	19880104
US 5091245	A	19920225	US 1989-403575	19890905
PRIORITY APPLN. INFO.:			US 1987-139	19870102
			US 1987-236678	19871231
			WO 1987-US3497	19871231

AB A degradable particulate absorbent material, having a bulk d. .ltoreq. **13** lbs/ft3, and useful as a **bedding** material during air transport of **animals** or as a flushable **litter** for **pets**, is manufd. by rehydrating cellulosic fibers, having minimal inorg. solids content, to form a water-fiber slurry contg. 3.5% total solids, mixing the slurry with 0.5-5.0% in sol. latex emulsion, dewatering the slurry to form a shreddable press cake, conditioning the particulates in the presence of H2O mist, and drying the conditioned particulates. Thus, **waste** sulfite pulp fibers (contg. 5% inorg. solids) were slurried in H2O, mixed with 1% insol. DL 244 A latex emulsion and alum to pH .apprxeq.5, transferred to a belt press, mixed with a flocculant (Polymer 1264), dewatered to form a press cake contg. 40% total solids, shredded, conditioned in the presence of H2O mist contg. a surfactant and a **deodordant** (contact), and dried to 90% total solids. The absorbent material, which had a bulk d. 7.0 lbs/ft3, was used as a **bedding** material for air shipment of swine with excellent results. The absorbing capacity of the particulate material with respect to std. hydraulic oil after 1 h was 293%, compared with 77% for com. pellets.

L18 ANSWER 18 OF 34 HCAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1988:534798 HCAPLUS
DOCUMENT NUMBER: 109:134798
TITLE: Industrial **waste** materials as a source of sterols
AUTHOR(S): Minorska, Aleksandra; Mazgajska, Irena
CORPORATE SOURCE: Ind. Chem. Res. Inst., Warsaw, PL-01-793, Pol.
SOURCE: Fett Wissenschaft Technologie (1988), 90(6), 231-3
CODEN: FWTEEG; ISSN: 0931-5985
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Sterols were found in the following **waste** materials (amt. given): undergrade lecithin 0.**13**-0.20%, gums from stock tanks, **wastes** from decanters, **animal** and vegetable fatty acid distn. residues 0.16-0.40%, volatile from **deodorization** of mixed hydrogenated oils 0.5-0.6%, volatiles from **deodorization** of liq. oils 1%, and tall oil distn. residues 2.5-5.2%. The sterols can be used in cosmetics and pharmaceuticals.

L18 ANSWER 19 OF 34 HCAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1987:89656 HCAPLUS
DOCUMENT NUMBER: 106:89656
TITLE: Kitty **litter** and its preparation
PATENT ASSIGNEE(S): Effem G.m.b.H., Fed. Rep. Ger.
SOURCE: Ger. Offen., 11 pp.
CODEN: GWXXBX
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 3520384	A1	19861211	DE 1985-3520384	19850607
DE 3520384	C2	19920305		
JP 61293323	A2	19861224	JP 1986-130005	19860604
JP 03025128	B4	19910405		
DK 8602675	A	19861208	DK 1986-2675	19860606
DK 166426	B1	19930524		
AU 8658462	A1	19861211	AU 1986-58462	19860606
AU 589970	B2	19891026		
ES 555813	A1	19880101	ES 1986-555813	19860606
CA 1252994	A1	19890425	CA 1986-511122	19860609

PRIORITY APPLN. INFO.: DE 1985-3520384 19850607

AB Kitty **litter** is prepd. from or combined with a porous **odor**-absorbing inorg. material, e.g., tobermorite, with pH in aq. slurry 7-9, preferably 7.5-8.5, contg. 0.1-2.0, preferably 0.5-1.3 wt.% Zn and 0.01-10/ ppm water-sol. Zn. The adsorbent is prepd. by treating porous material with an aq. soln. of a water-sol. Zn salt, e.g., ZnCl2, optionally contg. an alkali and/or alk. earth salt as extender. Thus, tobermorite granules with BET sp. surface 50-60 m2/g and CaO-SiO2 ratio 0.46-0.51 were autoclaved at **13** bar for 5 h, sprayed with 14 wt% of a soln. contg. ZnCl2 20, MgCl2.6H2O 33, and water 47 wt.% at .ltoreq.100.degree. to provide the desired pH and Zn content, and dried at .ltoreq.140.degree.. The product had superior properties, esp. for **deodorizing cat urine**, than conventional kitty **litters**.

L18 ANSWER 20 OF 34 HCAPLUS COPYRIGHT 2003 ACS on STN

ACCESSION NUMBER: 1979:436690 HCAPLUS
DOCUMENT NUMBER: 91:36690
TITLE: **Odor** communication in the tamarin Saguinus fuscicollis (Callitrichidae): behavioral and chemical studies
AUTHOR(S): Epple, Gisela; Golob, Norman F.; Smith, Amos B., III
CORPORATE SOURCE: Monell Chem. Senses Cent., Univ. Pennsylvania, Philadelphia, PA, 19104, USA
SOURCE: Chem. Ecol.: Odour Commun. Anim., Proc. Adv. Res. Inst. (1979), Meeting Date 1978, 117-30. Editor(s): Ritter, Frido J. Elsevier: Amsterdam, Neth. CODEN: 40PWAR
DOCUMENT TYPE: Conference
LANGUAGE: English

AB S. fuscicollis Uses complex scent marks, composed mainly of secretions from circumgenital skin glands and traces of **urine**, to communicate the identity of the species, subspecies, and individual, its gender, social status, and reproductive state. Previous studies showed that the major volatile constituents of these marks are squalene and a series of fatty alcs. esterified with butyric acid, all of which comprise 96% of the scent mark by wt. In the present studies, S. fuscicollis fuscicollis males preferred the scent marks of their own subspecies to those of S. fuscicollis illigeri, a subspecies with which this S. fuscicollis fuscicollis interbreads. Hybrids did not discriminate between the 2 subspecies. Chromatog. profiles showed **13** of the 16 components of the scent marks occurred in different relative ratios in the 2 subspecies, whereas only 3 were present in the same amts. Hybrid **animals** showed pronounced differences from the 2 subspecies. The relative ratios of each of the scent mark components within an individual fluctuated <20% over a 1-yr period. These and other studies suggest that specific ratios of scent mark components are involved in encoding subspecies diferences and that as yet unidentified synergists are apparently necessary to achieve complete biol. activity of the scent mark.

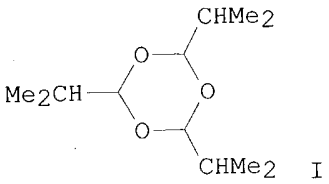
L18 ANSWER 21 OF 34 HCAPLUS COPYRIGHT 2003 ACS on STN

ACCESSION NUMBER: 1979:209521 HCAPLUS
DOCUMENT NUMBER: 90:209521
TITLE: A fermentation process for the utilization of swine **waste**
AUTHOR(S): Weiner, B. A.
CORPORATE SOURCE: Agric. Res. Serv., USDA, Peoria, IL, USA
SOURCE: Food, Fert. Agric. Residues, Proc. Cornell Agric. Waste Manage. Conf., 9th (1977), 621-35. Editor(s): Loehr, Raymond C. Ann Arbor Sci.: Ann Arbor, Mich. CODEN: 40BEA5
DOCUMENT TYPE: Conference
LANGUAGE: English
AB Anaerobic fermn. of swine **waste** combined with corn produced differences in microbial and biochem. patterns dependent on the use of fresh or stored manure. Lactic acid [50-21-5] fermn. and **odor** control resulted with either **waste**. Homofermentative lactics were present initially at 107 organisms/dry g with aged **waste** -corn cultulres, and total microflora amounted to 108 organisms/dry g. Fresh **waste**-corn fermns. yielded heteroferrmentative lactics at 107 oranisms/dry g, and the total viable population was 109 organism/dry g. These resp. lactic groups dominated from 12 through 144 h in cultures with either **waste**, and acid prodn. (0.2 mequiv/dry g) decreased the pH to 4.5. The major acid component with stored **waste**-corn was lactic acid, whereas fresh **waste**-corn fermn. produced both lactic and homologous fatty acids from acetic through valeric acids. Coliforms present initially at 105 organisms/dry g in stored **waste** -corn cultures were not detected after 36 h; coliforms in fresh **waste**-corn fermns. persisted at 106 organisms/dry g. Acid prodn., however, in fresh **waste**-corn flasks was increased over 27% by 0.1 replacement off starting fermns. with **waste**-corn cultures, 48 h old, equliv to an inoculum of lactic acid organisms. Fermn. product from fresh **waste**-corn cultures was fed as the major dietary component to young pigs, **hens**, and sheep. Pigs showed gain and gain/feed diminished by 1/3 in **13**-day trials. Laying **hens** performed comparably to controls in a 21-day test, and sheep did not discriminate against the fermn. product.

L18 ANSWER 22 OF 34 HCAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1978:176257 HCAPLUS
DOCUMENT NUMBER: 88:176257
TITLE: Measureable detection of **odors** in the **waste** gases in large-scale **animal** feed lots
AUTHOR(S): Bernert, J.
CORPORATE SOURCE: Inst. Gewerbl. Wasserwirtsch. und Luftreinhaltung e.V., Cologne, Fed. Rep. Ger.
SOURCE: Gesundheits-Ingenieur (1977), 98(11), 318-21 CODEN: GEINA5; ISSN: 0016-9277
DOCUMENT TYPE: Journal; General Review
LANGUAGE: German
AB A review, with **13** refs., on anal. methods which have been used in the investigation of **odorous** substances arising from the dung and liq. stool of fowl, swine, and cattle feed lots.

L18 ANSWER 23 OF 34 HCAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1978:69951 HCAPLUS
DOCUMENT NUMBER: 88:69951
TITLE: Inhalation toxicity test of Sunsubly B in rats
AUTHOR(S): Segawa, Tomio; Hosokawa, Hayato; Yokoro, Kenjiro; Uchino, Haruto; Okada, Kousuke
CORPORATE SOURCE: Inst. Pharm. Sci., Hiroshima Univ. Sch. Med., Hiroshima, Japan
SOURCE: Oyo Yakuri (1977), 14(3), 391-6

CODEN: OYYAA2; ISSN: 0300-8533
DOCUMENT TYPE: Journal
LANGUAGE: English
GI



I

AB Inhalation of Sunsubly B (I) [7580-12-3] by rats (**13** wk of exposure to 81 ppm) resulted in no deaths or toxic symptoms. Body wts., blood and **urine** contents, hematol. parameters, organ wts., and organ histol. generally showed no significant differences between control and exptl. **animals**. Thus, I, developed as a carrier for aromatics, repellents, and **deodorants**, showed no marked inhalation toxicity.

L18 ANSWER 24 OF 34 HCAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1977:572343 HCAPLUS
DOCUMENT NUMBER: 87:172343
TITLE: Fermentation of swine **waste**-corn mixtures for **animal** feed: pilot-plant studies
AUTHOR(S): Weiner, B. A.
CORPORATE SOURCE: NRRC, ARS, Peoria, IL, USA
SOURCE: European Journal of Applied Microbiology (1977), 4(1), 59-65
CODEN: EJAMA9; ISSN: 0340-2118
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Aerobic culture with solid substrates of fresh swine **waste** combined with corn resulted in lactic acid [50-21-5] fermn. with **odor** control. Heterofermentative lactic acid bacteria produced lactic plus homologous fatty acids (0.1 mequiv/dry g) to reduce the pH by 2 units to 4.2-4.6. During the fermn. lactic acid organisms increased from 107 to 109/dry g. Coliform organisms remained steady in no. at 106/dry g. Pilot-plant scale fermn. produced a product with 21-39% more methionine [63-68-3] than corn but this supplement was limiting for lysine [56-87-1] and methionine for young pigs. Fermn. product from fresh **waste**-corn cultures was fed as the major dietary component to young pigs, **hens** and sheep. Pigs showed a gain but the gain/feed ratio diminished by 1/3 in **13**-day trials. Laying **hens** performed comparably to controls in a 21-day test, and sheep did not discriminate against the fermn. product.

L18 ANSWER 25 OF 34 HCAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1976:419890 HCAPLUS
DOCUMENT NUMBER: 85:19890
TITLE: On the possibilities of composting bark and where this compost can be used
AUTHOR(S): Alestalo, A.; Koistinen, O.
CORPORATE SOURCE: Imatra, Finland
SOURCE: ISWA Information Bulletin (1975), 17, 13-17
CODEN: ISWBAN; ISSN: 0368-0266
DOCUMENT TYPE: Journal
LANGUAGE: English
AB For the purpose of utilizing steamwood bark and human or **animal**

wastes, the 2 materials were composted together to yield an **odorless** product with fertilizer qualities. The bark compost obtained contained N 27.0, P 12.6, and K **13**.4 g/kg as well as appreciable quantities of trace elements. In fertilizer expts. with wheat, yields of 6240-6390 kg/ha were obtained.

L18 ANSWER 26 OF 34 HCAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1976:95047 HCAPLUS
DOCUMENT NUMBER: 84:95047
TITLE: **Deodorization** of air
INVENTOR(S): Schwartz, Herbert
PATENT ASSIGNEE(S): USA
SOURCE: Fr. Demande, 13 pp.
CODEN: FRXXBL
DOCUMENT TYPE: Patent
LANGUAGE: French
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
FR 2252853	A1	19750627	FR 1974-39424	19741202
FR 2252853	B1	19781027		
JP 50088237	A2	19750715	JP 1974-131559	19741114
JP 56024548	B4	19810606		
IT 1025746	A	19780830	IT 1974-29495	19741115

PRIORITY APPLN. INFO.: US 1973-420970 19731203
AB **Odors** from **animal** or human **wastes** were eliminated by a mixt. of tetracyclic heterocycles and a quaternary ammonium salt. Thus, a **deodorant** soln. was prepd. from 1,3,5,7-tetraazatricyclo[3.3.1.**13**,7]decane (I) [100-97-0] 25, H2O 52, an C12-16 alkyldimethylbenzylammonium chloride (80%) 12.5, emulsifier 10, and perfume 0.5 part. Then, 220 kg of this soln. was used over a 3 month period in a system circulating .apprx.760,000 l./day for the cleaning of chicken coops. Similar solns. were prepd. contg. 1,3,6,8-tetraazatricyclo[4.4.1.**13**,8]dodecane [51-46-7] or 4,5,9,10-bibenzo-1,3,6,8-tetraazatricyclo[4.4.1.**13**,8]dodecane [220-52-0]. Also, a compn. contg. I was prepd. as an aerosol.

L18 ANSWER 27 OF 34 HCAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1973:496571 HCAPLUS
DOCUMENT NUMBER: 79:96571
TITLE: Soil microorganism metabolism in spray irrigation
AUTHOR(S): Vela, G. R.; Eubanks, Elizabeth R.
CORPORATE SOURCE: North Texas State Univ., Denton, TX, USA
SOURCE: Journal - Water Pollution Control Federation (1973), 45(8), 1789-94
CODEN: JWPFA5; ISSN: 0043-1303
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Effluent from a food processing plant (**13**.2 ml/day) was screened at 8 mesh, allowed to settle, and sprayed through 700 irrigation sprinklers onto a level 202 hectare field to give a clear, tasteless, and **odorless** runoff. The analyses of the spray and runoff are BOD 505.0, 3.5; COD 617, 62; org. C 184, 23; suspended solids 172, 8; PO4 2.0, 4.0; and total N **13**.5, 1.9 mg/l., resp. The field was periodically dried 2 weeks and mowed to give a **livestock** feed.

L18 ANSWER 28 OF 34 HCAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1973:39322 HCAPLUS
DOCUMENT NUMBER: 78:39322
TITLE: Synergistic bactericidal compositions
INVENTOR(S): Schwartz, Herbert

SOURCE: Ger. Offen., 12 pp.
CODEN: GWXXBX

DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 2209606	A	19721116	DE 1972-2209606	19720229
IT 995027	A	19751110	IT 1972-21838	19720314
CA 969860	A1	19750624	CA 1972-139191	19720407
ES 401679	A1	19750316	ES 1972-401679	19720412
FR 2135182	A5	19721215	FR 1972-14873	19720426
FR 2135182	B1	19751031		
NL 7205771	A	19721107	NL 1972-5771	19720428
JP 56009481	B4	19810302	JP 1972-42307	19720428
DD 96146	C	19730312	DD 1972-162672	19720502
GB 1327353	A	19730822	GB 1972-20399	19720502
AT 315382	B	19740527	AT 1972-3791	19720502
CH 571302	A	19760115	CH 1972-6484	19720502
BE 782984	A1	19720901	BE 1972-117069	19720503
HU 163636	P	19730927	HU 1972-163636	19720503
SU 543329	D	19770115	SU 1972-1780401	19720503

PRIORITY APPLN. INFO.: US 1971-139844 19710503

AB Quaternary ammonium salts such as alkyldimethylbenzylammonium chlorides, mixed with the tricyclic heterocyclic compds. hexamethylenetetramine [100-97-0], 1,3,6,8-tetraazatricyclo[4.4.1.**13**,8]dodecane (I) [51-46-7], or 4,5,9,10-dibenzo-1,3,6,8-tetraazatricyclo[4.4.1.**13**,8]dodecane [220-52-0], showed synergistic antibacterial activity against test organisms such as Pseudomonas aeruginosa, Staphylococcus aureus, and Salmonella typhosa. The compds. were useful, in combination with emulsifiers and perfumes, in preventing **odors** arising from bacterial decompn. of org. material, e.g. in **cat** boxes, chicken coops, and garbage cans.

L18 ANSWER 29 OF 34 HCAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1969:521078 HCAPLUS
DOCUMENT NUMBER: 71:121078
TITLE: Special mixed feed for increasing the fat content of milk
AUTHOR(S): Mamedov, R. S.; Dadashev, Ch. N.; Kerimov, G. K.
CORPORATE SOURCE: USSR
SOURCE: Mater. Nauch. Konf., Azerb. Nauch.-Issled. Inst. Zhivotnovod. (1968), Meeting Date 1967, 72-4. Editor(s): Farzaliev, I. M. Azerb. Nauch.-Issled. Inst. Zhivotnovod.: Kirovabad, USSR.
CODEN: 21JOAO

DOCUMENT TYPE: Conference
LANGUAGE: Russian

AB Mixed feed no. 1 consisted of barley, bran, wheat, silkworm chrysalises, trace elements (Co, Zn, Cu, etc.), salt, and chalk; the same for no. 2; mixed feed no. 3 was a standard plant product consisting of barley, bran, crushed cotton plant, and grain **waste**. Expts. were conducted in two 3-**animal** groups. In the mixed feed no. 1, dry silkworm chrysalises made up 15% of total wt., in mixed feed no. 2 it was 10%. In plant product mixed feed crushed cotton seeds made up 25%, peas 10% of the total wt. The daily rations of buffalo **cows** consisted of 4.3-4.6 kg. of meadow hay, 12.0-12.6 kg. of fodder beets, 1.2-**13**.0 kg. of cotton husks, and 4.0 kg. of mixed feed. Introduction of the mixed feed no. 1 (contg. 32.99% of crude protein and 5.65% of crude fat) increased considerably the fat content of milk. The milk fat content in the group receiving mixed feed no. 1 was 0.45% higher compared with the

preliminary period. There were no significant differences in other indexes in any group. Silkworm chrysalises have a sharp, unpleasant **odor**, which has been known to be transferred to the milk. In these expts. they were fed in small amts., and the milk of buffalo **cows** of the exptl. groups did not differ in organoleptic properties from that of the control group. Therefore, mixed feed may be safely enriched with 15% of dry silkworm chrysalises.

L18 ANSWER 30 OF 34 HCAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1968:443006 HCAPLUS
DOCUMENT NUMBER: 69:43006
TITLE: Chronic toxicity to laying **hens** and degradation of Bayer 18779 [O-ethyl-O-isopropyl-O-phthaloximido phosphorothioate]
AUTHOR(S): Sherman, Martin; Takei, G. H.; Herrick, R. B.; Ross, E.
CORPORATE SOURCE: Univ. of Hawaii, Honolulu, HI, USA
SOURCE: Poultry Science (1968), 47(2), 648-54
CODEN: POSCAL; ISSN: 0032-5791
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Two grades of tech. Bayer 18779 were administered in the diet to White Leghorn laying **hens**; the drug level was 100 ppm. for **13** weeks then 200 ppm. The treatment had no significant effect on **hen** mortality, body wt., feed consumption, egg production, egg shell thickness, egg wt., internal egg quality, flavor, or **odor**, although it did depress feed efficiency (1.78 and 1.97 kg./dozen eggs in the control and exptl. groups, resp.). The treatment inhibited blood plasma cholin. esterase activity; cholinesterase inhibition increased to a max-of 89% after a 6-week administration at the 100 ppm. level and declined to 50% by the 13th week. A similar increase and decline in inhibition occurred after each subsequent feeding of freshly prepd. insecticide-treated diet at **13** and 27 weeks suggesting instability of the insecticide during feed storage. In stability studies, the inhibitory effect of Bayer 18779 on human blood plasma cholinesterase was rapidly reduced during 2 days in aq. sol. Changes in the uv-absorption spectra of aq. solns. occurred within a few hrs. and showed complete breakdown of the insecticide after 10 days. Bayer 18779 added to the diet of laying **hens** was too unstable to effect a high level of protection against the breeding of Musca domestica, Fannia pusio, Chrysomyia megacephala, and Parasarcophaga argyrostoma in the **feces** from these **hens**.

L18 ANSWER 31 OF 34 HCAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1967:79376 HCAPLUS
DOCUMENT NUMBER: 66:79376
TITLE: Some notes on the liquidation of city **wastes** with utilization of sewage sludge, and the problem of industrial stack emissions in Western Germany
AUTHOR(S): Maly, Vladimir; Jonas, Frantisek
CORPORATE SOURCE: Vyzkumny Ustav Melioraci, Prague, Czech.
SOURCE: Vestnik Vyzkumnych Ustavu Zemedelskych (1966), 13(11), 481-7
CODEN: VVZMAV; ISSN: 0574-8801
DOCUMENT TYPE: Journal
LANGUAGE: Czech
AB The Ruhr Valley was studied for hygienic practices for reducing water and air pollution. Special emphasis was given to the Huckingen composting plant at Duisburg. This plant, built in 1956-7 at a cost. of 1.5 million DM (German marks) can handle 80-100 tons/day of household **wastes** from a city of 120,000 population. The comminuted **waste** is sorted for sepn. of metal, glass, and other undesirables and sewage sludge is admixed in large rotating drums heated to 60-70.degree. to aerate and

liquidate the **waste** and destroy pathogenic organisms and weed seeds. The processed mass is stored for 3-5 days for curing. While the operation of the plant is essential for hygienic reasons, it is not a profitable self-sustaining venture from the standpoint of return on sales of the compost in 3 grades: fresh 7-10, cured 10-**13**, and enriched 15-20 DM/ton, plus the sale of scrap iron compressed into 40 .times. 40 .times. 25 cm. bales at 50-100 DM/ton, and sale of other metals and glass. This plant eliminated a hot weather **odor** problem by a 3-stage spray treatment (with ClO2) of the mass within the rotating drums, and draining the effluent to a sewer. The offending **odor** was due to anaerobic conditions, caused by the higher temp. and moisture content during the summer, evolving butyric acid and amines (cadaverine and putrescine) in trace amts. The effect of the Ruhr District industrial stack emissions, esp. SO2 and HF, on vegetation was being studied at several institutions in Krefeld and Hamburg. Stations I and II, showing annual mean pollution of 0.24 and 0.30 mg. SO2/m.3, resp., with 2 peak values each, resp., of 0.58, 0.79, and 1.08, 2.89 mg. SO2/m.3, were compared for tissue damage. The effect of the higher pollution was statistically significant. The sensitivity of plants to SO2 with visible tissue damage differs from species to species. Chem. analysis of the exposed tissues for S and F concn. did not correlate with the type of plant or with its location at Station I vs. II, although the values exceeded detns. on plants raised in nonpolluted air. The detns. did not parallel the extent of visible tissue damage. F was concd. in the exposed tissues to a greater extent than S. Analysis of the potting soil showed that the surface soil sulfate concn. was enriched; double in some cases that in the subsurface layers. Analysis of plant tissues raised close to the source of SO2 pollution showed double the sulfate concn. of plants raised at greater distance, e.g., at 200 m. 0.821-0.679%, at 600-1000 m. 0.355-0.477%, and in a clean rural atm. 0.094%. Samples of hay from the vicinity of a fertilizer plant analyzed 89-214 ppm. F. The danger of F in hay fed to cattle may be regarded as: harmful >50, suspect >25, safe <10 ppm. The max. permissible concn. for SO2, the dustfall limit, and the testing methods and instruments for W. Germany and Czechoslovakia are compared.

L18 ANSWER 32 OF 34 HCAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1943:37426 HCAPLUS
DOCUMENT NUMBER: 37:37426
ORIGINAL REFERENCE NO.: 37:5943g-i,5944a-i,5945a-b
TITLE: The fat from fatty acids with odd numbers of carbon atoms. III
AUTHOR(S): Keil, W.
SOURCE: Z. physiol. Chem. (1942), 274, 175-85
DOCUMENT TYPE: Journal
LANGUAGE: Unavailable

AB Ether-sol. acids were detd. in the **urine** of **dogs** on basal diet supplemented with different kinds of natural fat; 0.1-0.4 g. were recovered per 100 g. fat fed daily for 3 days. Similar results were obtained with fats contg. only odd-no., straight-chain fatty acids. Triglycerides of synthetic branched-chain fatty acids gave an increased Et2O-sol. fraction in the **urine**. Et branched-chain fatty acids are inefficiently attacked in the body and are eliminated, whereas 2-, 3- and 5-methyldodecanoic acids are not excreted significantly. A number of branched-chain fatty acids were synthesized. 2-Ethyl-1-hexanol (1 kg.) was satd. at 100-130.degree. with fuming HBr; 300-400 cc. Br2 was used up. The mixt. was washed with H2O, neutralized with Na2CO3 and purified by distn. after drying over Na2SO4. 2-Ethylhexyl bromide (I), a colorless liquid, b10 72-75.degree., d20 1.086, was recovered in almost quant. yields. A mixt. of 75 g. Na in 750 cc. abs. EtOH was treated with 547 g. malonic ester, then heated to boiling and 700 g. I added dropwise and the whole refluxed 24 hrs. Then 700 g. KOH was added and the mixt. refluxed 2 hrs. The alc. was distd. off and the residue dissolved in H2O and extd.

several times with Et2O to sep. the saponifiable fraction. The soln. was then made strongly acid and the deep brown diacid sepd. in a separatory funnel and washed with H2O. The crude product was heated at 180.degree. until CO2 evolution stopped. After cooling 4-ethyloctanoic acid (II) was distd. in vacuo. II is a colorless liquid, b10 142-3.degree., mol. wt. 173.1 (calcd. 172); yield 81% from I. II (800 g.) in 2000 cc. alc. was treated with fuming HCl, the mixt. neutralized, dried and the ester, b10 108-10.degree., recovered. It was treated with Cu-Cr and reduced with H in an autoclave at 270.degree.. After filtration, 4-ethyl-1-octanol (III), b10 108-110.degree., was obtained by distn. in 80% yield. 3-Ethyl-1-bromooctane (IV), a colorless liquid, b10 104-6.degree., d20 1.068, was prepd. in a manner analogous to I. 6-Ethyldecanoic acid (V) was prepd. from 700 g. IV, 63.7 g. Na, 650 cc. EtOH and 506.7 g. malonic ester in a manner analogous to II. The pure acid is colorless, slightly volatile, mol. wt. 200.3. KCN (200 g.) and 2 g. KI in double the amt. of H2O were treated with 2000 cc. boiling EtOH (96%); 585 g. IV was added and the whole refluxed 15 hrs., followed by sepn. of the EtOH by distn. The light yellow liquid was washed with H2O and 4-ethyloctyl cyanide (VI), b14 126-8.degree., was obtained by distn. VI in EtOH was satd. with HCl gas and refluxed 2 hrs. The NH4Cl was sepd. by filtration and the EtOH distd. off from the filtrate. The ester, b17 126-30.degree., was purified by distn. Free 5-ethylnonanoic acid (VII), a colorless liquid, b17 163-7.degree., was obtained from the ester by sapon. Et2O (2 l.) and 125 g. Mg chips were mixed in an 8-l. flask fitted with reflux condenser. MeBr was added with cooling until all the Mg was dissolved (4-5 hrs.). The soln. was warmed 1 hr. and, after cooling, 780 g. decanaldehyde in an equal vol. Et2O was added dropwise. After treatment with dil. HCl, methylnonylcarbinol (VIII) was obtained in the usual manner in 80% yield. The bromide, 2-bromohendecane (IX), b15 128.degree., n20D 1.4591, was prepd. from VIII in a manner analogous to 4-ethylhexyl bromide. Yield 70%. Na (96 g.) in 1500 cc. abs. EtOH was treated with 660 g. malonic ester and 920 g. IX and the mixt. refluxed 24 hrs. After filtration of the NaBr and concn. of the alc. soln. to 2/3 vol. the ester of (1-methyldecyl)malonic acid, b2 150-2.degree., was obtained in 70% yield. The ester (400 g.) in 500 cc. H2O was sapond. with 150 g. NaOH at 130-50.degree. for 5 hrs. in an autoclave. The unsapond. matter was sepd. by shaking with C6H6. The (1-methyldecyl)malonic acid was decarboxylated at 180.degree., esterified with MeOH and distd. (b6 125-30.degree., sapon. no. 240). 3-Methyldodecanoic acid (X) (214 g.), prepd. from the ester in the usual manner, is a thick liquid with a disagreeable penetrating **odor**. Freshly distd. 1-octanol (640 g.) was treated with Grignard soln. of 120 g. Mg and 500 cc. MeBr. The yield of crude 1-methyl-1-octanol (XI) was 680 g. Treatment of XI with HBr at 100-30.degree. yielded 80% 1-methyloctyl bromide (XII), b38 116-18.degree.. (1-Methyloctyl)malonic ester (75% of theory) was prepd. as usual from XII, the diacid sepd. after sapon. of the ester and decarboxylated at 160.degree., yielding 3-methyldecanoic acid (XIII); Me ester b18 110-**13**.degree.. 3-Methyl-1-decanol (XIV) was obtained in 80% yield by hydrogenation of the Me ester with Cu-Cr at 280.degree. and 180 atm. H. Treatment with HBr gave 3-methyldecyl bromide (XV), b20 120-4.degree.. 5-Methyldodecanoic acid (XVI), b10.6 132.degree., was prepd. (80% yield) in an analogous manner as for II through (3-methyldecyl)malonic acid. The branched-chain fatty acids obtained above were converted to the triglycerides with Zn as catalyst. Dicarboxylic acids were obtained in high yields from Et2O exts. of **urine** by dissolving the exts. in 5-10 vols. MeOH or EtOH and satg. with HCl gas. The hot soln. was warmed several hrs. on a steam bath and the esters sepd. by pouring the soln. on ice. The crude esters were taken up in Et2O and washed with dil. HCl, H2O and KHCO3, resp., and then with H2O several times. The Et2O soln. was dried with Na2SO4 and the Et2O evapd. The brown liquid residue was distd. in vacuo and the esters of the dicarboxylic acids distd. at 180.degree.. The free dicarboxylic acids were obtained by sapon., extd. with Et2O and washed with petr. ether to

sep. other acids and phenols. The Et2O exts. of the aq. soln. of the Na salts of the dicarboxylic acids adjusted to different degrees of acidity yielded different cryst. acids. The first fractions were the higher acids and the last fractions the lower ones. **Urine** from **dogs** fed 8 kg. cocoa fat, treated as above, yielded 10.3 g. crude cryst. dicarboxylic acids. Cryst. suberic acid and sebacic acids were isolated. Adipic acid was not found. From 1 kg. synthetic fat mixt. (No. 137) 16.0 g. crude cryst. fraction was obtained from which sebacic, azelaic, suberic and adipic acids were isolated. From 3 kg. synthetic fat mixt. (No. 138-40) 30 g. crude fraction was obtained. Sebacic, azelaic, suberic, pimelic and adipic acids were isolated. The synthetic fat mixts. contained even- and odd-numbered dicarboxylic fatty acids C10-C23.

L18 ANSWER 33 OF 34 HCAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1941:20424 HCAPLUS
DOCUMENT NUMBER: 35:20424
ORIGINAL REFERENCE NO.: 35:3274f-i,3275a-h
TITLE: Investigation of the human blood group A. The group-specific A substance
AUTHOR(S): Freudenberg, Karl; Westphal, Otto; Marriott, G.; Groenewoud, P.; Molter, H.
SOURCE: Sitzber. heidelberg. Akad. Wiss., Math.-naturw. Klasse (1938), (Abhandl. 1), 38 pp.
DOCUMENT TYPE: Journal
LANGUAGE: Unavailable
AB The group-specific A substance (I) found in the **urine** of individuals of blood group A was obtained from peptone and pepsin prepns. Mixed hog and beef peptone was digested with papain to "free" the I. Peptone (20 g.) was added to 200 ml. water and 5 g. papayotin (1:350, Merck) added; this was allowed to stand overnight and 5 ml. KCN (10%), 35 ml. HCl (2 N), 2 ml. toluene and 60 ml. water were then added. The mixt. was allowed to stand 6 days at 38.degree., 0.5 g. papain added and allowed to stand 8 days. Twenty such prepns. were combined, filtered warm and allowed to stand overnight. The tyrosine (25 g.) was filtered, 1 l. tannin soln. (20%) added to the filtrate and the resulting white ppt. discarded. The filtrate was concd. to 2.2 l., 100 ml. tannin soln. added and the small ppt. rejected. To the filtrate 500 ml. neutral Pb(OAc)2 (25%) was added, the ppt. filtered, washed with water (40.degree.) and the filtrate freed of Pb with H2S. The Pb-free filtrate was evapd. to 500 ml., cautiously acidified with 35 ml. concd. HCl and poured into 15 vols. abs. alc., in a thin stream, with stirring. The ppt. was filtered and dried over CaCl2. The 130-g. product (II) so obtained was 4 times as active as peptone in inhibiting hemolysis. II was further concd. by dissolving in 100-120 ml. 2 N HCl, 20 ml. concd. HCl added and the soln. poured into 15 vols. alc., giving a 40-g. product **13** times as active as peptone. Further purification (35 ml. 2 N HCl, 10 ml. concd. HCl) gave 17 g. of a white hygroscopic powder (III) having a characteristic **odor**, which was 28 times as active as peptone. Electro-dialysis of 2 g. III (80 v., "cuprophane" membrane) gave a 625-mg. product (IV) 3 times as active as III. Fractional pptn. of the basic Pb(OAc)2 addn. compd. of IV (2.4 g. IV in 30 ml. water, 12.2 ml. 15% basic Pb(OAc)2 by addn. of 34.5 ml. alc. (final concn. of alc. 45%) gave 345 mg. having the same activity as IV. Addn. of 26.5 ml. alc. to the filtrate (making the alc. concn. 60%) gave 496 mg. of substance (V), 4 times as active as IV. Addn. of 107 ml. alc. to the filtrate gave 512 mg. of substance having half the activity of IV. Concn. of this filtrate gave 403 mg. of inactive product. One kg. Witte peptone gave 6-7 g. IV and 1.2 g. V. Three addnl. fractional pptns. gave a product (VI) 6 times as active as V that could not be further concd. in this way. Analyses of V and VI, resp., indicate: C 39.54, 37.54; H 6.79, 7.32; N 6.42, 5.75; acetyl -, 6.46; "CrO3 acetyl" -, 14.60%; [.alpha.]D -7.2.degree., +25.0.degree.. Analytical data are of only orientating value, however, since a specimen of impure I isolated from **horse urine**

by Landsteiner, C. A. 30, 3054.2, had about the same activity as fractionated IV, but analyses of these 2 specimens were quite different. Certain pepsin prepns. contained 2-12 times as much I as peptone, whereas other pepsin prepns. contained none. Pepsin (1 kg.) was stirred in 5 l. water (50-60.degree.) until mostly dissolved, then heated to 80-83.degree. for 15 min., cooled to 50.degree. and filtered. The ppt. was washed with water, centrifuged and the filtered washings were added to the main soln. This soln. was digested with papain, treated with tannin, the neutral Pb(OAc)2 soln. pptd. with alc. and dialyzed as described for the procedure with peptone. Adsorption on various adsorbents did not effect a further concn., since impurities were eluted with I. Adsorption on Fe(OH)3 followed by dissolving the adsorbent with 4 N HCl increased the activity 2-3 times. Fuller's earth adsorbed impurities but left I in borax soln. (19 g. per l.), resulting in a 10-fold increase in activity (86% yield); this product (VII) could not be further concd. by pptn. with basic Pb(OAc)2 in 45-60% alc., as with V. To 1400 mg. VII in 28 ml. water 10 ml. AgNO3 (25%) was added. Fractional pptn. with alc. gave a fraction (VIII) (48-75% alc.) 3 times as active as VII. To 800 mg. VIII in 27 ml. glycol, 40 ml. MeOH was added; 162 mg. ppt. was obtained which was 0.5 as active as VIII. To the filtrate 50 ml. MeOH was added; 490 mg. of substance (IX), 1.5 times as active as VIII, was obtained. IX (350 mg.) in 12 ml. glycol, was pptd. by successive addns. of 12 and 26 ml. MeOH. The 110-mg. substance (X) so obtained was 4 times as active as IX. This is the most active prepn. yet obtained. Analysis indicated: C 45.74, H 7.31, N 4.87, acetyl 9.14, CrO3 acetyl 17.19%. Hydrolysis of X with 10% HCl gave glucosamine as HCl salt, which is present in X as N-acetylglucosamine. In working up I from pepsin, 2 alternative procedures were employed for the removal of Pb after the pptn. with Pb(OAc)2, i. e., addn. of H2SO4 and use of H2S. Comparative expts. indicated that half the I was lost when the second procedure was used. Investigation showed this to be due to adsorption on the PbS formed. O3 and H2O2 apparently react chemically with I, without affecting its ability to prevent hemolysis. Soly., rate of diffusion, etc., of X indicate that I is a neutral polysaccharide having a mol. wt. of about 1000.

L18 ANSWER 34 OF 34 HCAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1924:19051 HCAPLUS
DOCUMENT NUMBER: 18:19051
ORIGINAL REFERENCE NO.: 18:2559a-c
TITLE: Metabolism of milch **cows** suffering from acetonemia
AUTHOR(S): Sjollema, B.; van der Zande, J. E.
SOURCE: Proc. Akad. Sci. Amsterdam (1923), 26, 666-8
DOCUMENT TYPE: Journal
LANGUAGE: Unavailable
AB With milch **cows** it sometimes happens that acetonemia reveals itself a few days after parturition, when the **animals** become much emaciated within a few days, the milk yield and appetite decrease, and the **odor** of acetone is observed. As a rule the **animals** recover in a short time and very soon if put out on grass. Among more than 20 **animals** studied the **urine**, blood and milk contained 10-**13**, 0.6-1.0, and 0.3-0.5 g. per l. of acetone, resp. The alkali reserve of the blood was lowered to 0.8 or 0.75 of its normal value. Hyperglucemia was absent in the blood and sugar was not found in the **urine** in any case. The acidosis brought about by the acetone bodies caused a rise in the Ca and NH3 content of the **urine** and was chiefly due to hypercholesterolemia in the blood plasma, about twice the normal amt. being present. It was calcd. that **cows** secreting 120 g. of acetone bodies daily must metabolize more than 1 kg. of fat. Since the **cows** ingested but little fat with the food, about 1 kg. of body fat was burned daily. That the disturbance is functional only was proved by the speedy recovery on a grass diet. It is probable that the disturbed fat metabolism is caused by an intoxication